

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the present amendment and following discussion is respectfully requested.

Claims 1-36 are pending. Claims 3-7, 12, 13, 21, 22, 31, 32, 34 and 35 are withdrawn.

In the outstanding Office Action, Claims 1, 2, 8-11, 14-20, 23-30, 33, and 36 were rejected under 35 U.S.C. §102(b) as anticipated by Yuan (U.S. Patent No. 3,936,013), or in the alternative, under 35 U.S.C. §103(a) as unpatentable over Yuan in view of ordinary skill in the art.

With regard to the assertion in paragraph 4 of the outstanding Office Action, the response filed May 8, 2006 did not dispute the use of the Bilanin reference. Only the use of the Ortega reference was discussed.

With regard to the assertions in the outstanding Office Action that Claims 31, 32, 34, and 35 include new matter, it is respectfully noted that these claims are supported at least by the specification at page 14, lines 11-18 and Figure 3. It is further noted that, contrary to the assertions in the outstanding Office Action,¹ none of these claims recite two perturbation device (or means for generating a perturbation). Instead, each claim recites two possible embodiments for a perturbation device (or means for generating a perturbation). As both of these possible embodiments are supported at least by the specification at page 14, lines 11-18 and Figure 3, no new matter was added by the amendment filed May 8, 2006.

With regard to the rejection of Claims 1, 10, and 16 under 35 U.S.C. §102(b) as anticipated by Yuan, or in the alternative, under 35 U.S.C. §103(a) as unpatentable over Yuan, that rejection is respectfully traversed.

¹See the outstanding Office Action at page 7, lines 1-3.

Claim 1 recites an aircraft comprising:

a wing forming a vortex at a rear portion thereof by a merging of a first co-rotating eddy with a second co-rotating eddy; and

a perturbation device disposed adjacent an area of creation of the first co-rotating eddy, the perturbation device being configured to generate a periodic perturbation having a wavelength configured to excite at least one instability mode of the first co-rotating eddy to accelerate a destruction of the vortex.

The outstanding Office Action cited *In re Schreiber* in concluding that the above-recited features of Claim 1 do not have any patentable weight. The Office Action further stated that “Phrases such, as ‘configured to excite’ and ‘to accelerate’ do not limit any structural element of the aircraft.” It is agreed that the holding of *In re Schreiber* is very pertinent to the present application. However, it is respectfully submitted that *In re Schreiber* holds that the above-recited features of Claim 1 ***do have patentable weight***, contrary to the conclusion of the outstanding Office Action.

In re Schreiber holds that “While features of an apparatus may be recited either structurally ***or functionally***, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function.” *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). (Emphasis added.) In the present case, Claim 1 recites the features of the claimed apparatus ***functionally***, in accordance with the above-quoted case law. Claim 1 includes the structural feature of a perturbation device that includes structure such that the device functions to generate a periodic perturbation having a wavelength configured to excite at least one instability mode of the first co-rotating eddy to accelerate a destruction of the vortex. In contrast, it is respectfully submitted that Yuan does not teach any structure that functions to excite ***any*** instability mode of a vortex, nor has any such structure been cited by the outstanding Office Action. The conclusion of the

outstanding Office action that the structural features recited functionally in Claim 1 have no patentable weight is clearly contrary to the holding of *In re Schreiber*.

Even more striking is the conclusion of the outstanding Office Action with regard to Claim 10. As Claim 10 recites “means for generating a perturbation,” the conclusion that such a function amounts to an intended use would nullify the patentability of any “means plus function” element. Accordingly, Claims 1 and 10 properly recite structural features of an apparatus using functional limitations. As Yuan does not teach or suggest any structure that has such a function, and no other reference has been cited as teaching such a device, a *prima facie* case of obviousness has not been made with respect to Claim 1.

Consequently, as Yuan does not teach or suggest the perturbation device as defined in Claim 1, Claim 1 is not anticipated by Yuan, or unpatentable over Yuan. As Claims 10 and 16 recite similar subject matter to Claim 1, Claims 1, 10, and 16 (and Claims 2-9, 11-15, and 17-36 dependent therefrom) are patentable over Yuan.

Withdrawn Claims 3-7, 21, 22, 31, 32, 34, and 35 depend from generic Claim 1, which is believed to be patentable as discussed above. Accordingly, the rejoinder and allowance of Claims 3-7, 21, 22, 31, and 32 is respectfully requested. Withdrawn Claims 12, 13, 34, and 35 depend from generic Claim 10 which is also believed to be patentable as discussed above. Accordingly, the rejoinder and allowance of Claims 12, 13, 34, and 35 is also respectfully requested.

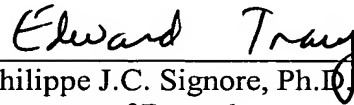
Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-36 is earnestly solicited.

Application No. 10/717,672
Reply to Office Action of July 25, 2006

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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